Towards Multi-Scale Theories of Technology Entrepreneurship

PDW - Panel on Time, Resources & Entrepreneurship
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My Focus: Digital Technology Based Entrepreneurship (DE)

- **What is Digital Entrepreneurship?**

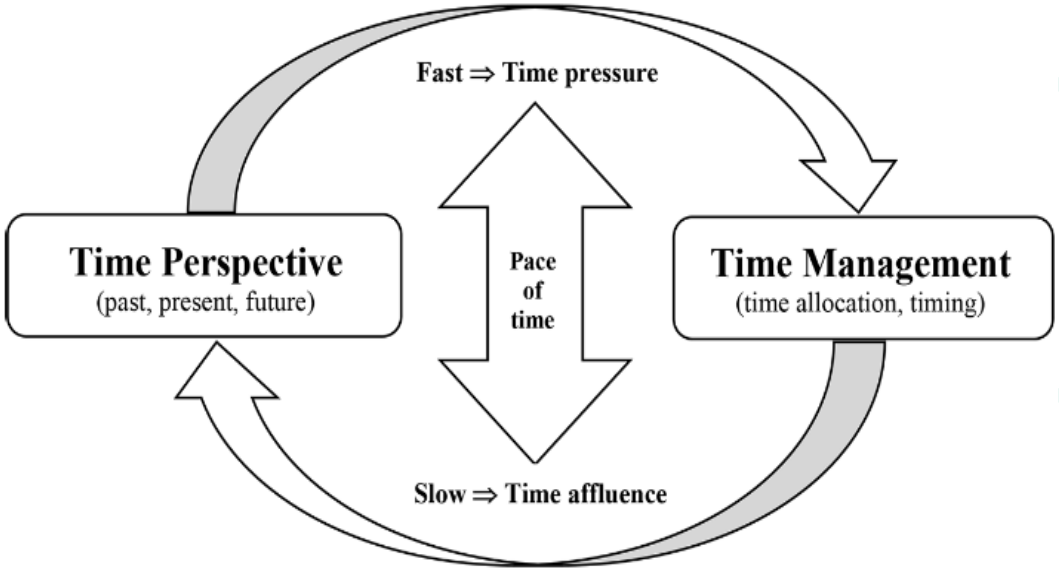
  Key Characteristics:

  - Value Proposition Involves:
    Data / IoT / Algorithms/ AI
  - Delivery through Cloud Based Technology Infrastructure
  - Distributed Ownership of Resources
  - **Incremental Experimentation and Validation at Speed:** e.g. one or more small innovation delivered to end customers, at scale, every day:
    - **Timing Matters, Resources are Adapted Regularly!**

- **An Influential & Growing "Slice" of Technology Entrepreneurship Research Field**

Time: Perspective & Management

Lévesque and Stephan 2019



"Strategy (perspective) got you initial funding, ops (delivery) got you the next round.

Now these decisions go hand in hand !"

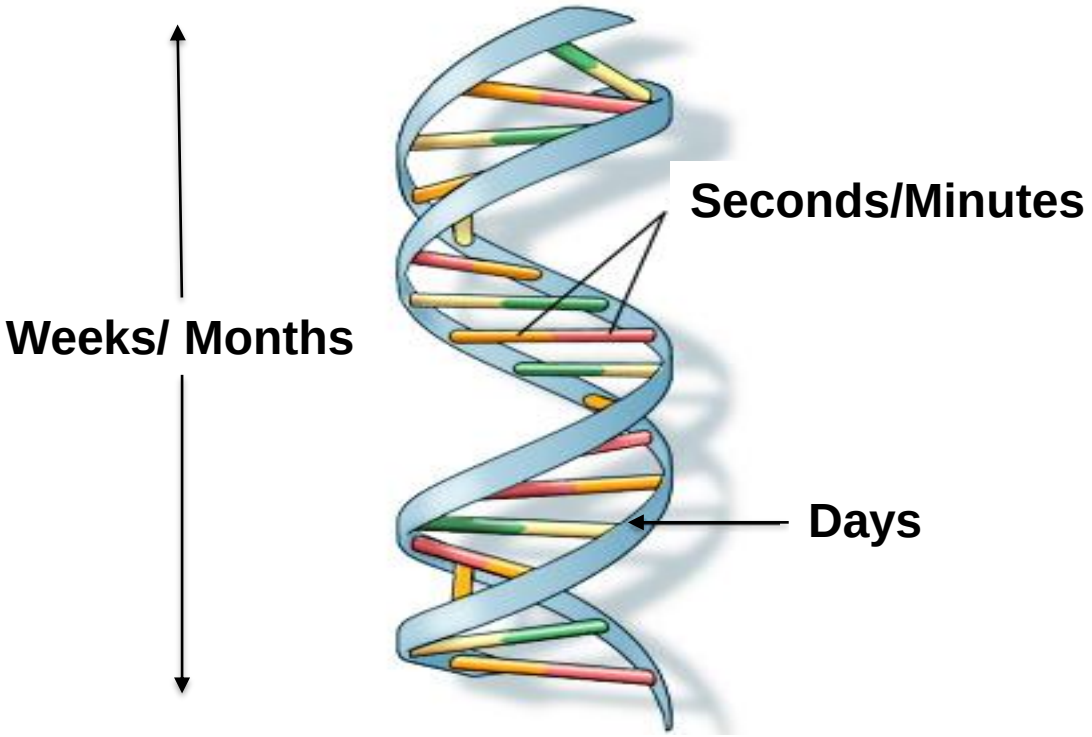
Three Relevant Decision Time Scales for Digital Entrepreneurship

- Strategic Decisions (**Scale: Weeks/Months**) around resources (e.g., valuation, cash flow) & competitive evolution
- Micro (Ops+ Strategy, **Scale: Days**) based on adapting resources such as operating routines & allied entrepreneurial behavior
- Nano Ops (**Scale: Seconds/ Minutes**) for resource allocation around demand – supply balance based on algorithms such a Uber's capacity and pricing decisions.

Emergent Theory Questions

(at the intersection of data science/ AI, entrepreneurship & OM)

Multi Time-Scale *or Nested Models* that Must Link Data, Entrepreneurial Strategy, Resource Allocation & Operations (Delivery) Decisions



Examples:

Under which conditions can efficient nesting of algorithms and operating routines enhance startup valuation? And why?

How should a startup organize for governing (e.g. during resource adaptation) multi time-scale decisions?

How does nesting of time scales affect end customers' decision making?

*** Joint - entrepreneurship + ops - theories could borrow from engineering and complexity science models (See papers in Artificial Intelligence-EDAM 2014, ICED 2019 and DSM 2019)**